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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,632	02/27/2004	Frank Eugene Wills	20712-0061	1206
26587	7590	09/07/2005	EXAMINER	
MCNEES, WALLACE & NURICK LLC 100 PINE STREET P.O. BOX 1166 HARRISBURG, PA 17108-1166			SMITH, TYRONE W	
			ART UNIT	PAPER NUMBER
			2837	

DATE MAILED: 09/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

**Office Action Summary**

Application No.

10/789,632

Applicant(s)

WILLS ET AL.

Examiner

Tyrone W. Smith

Art Unit

2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2/27/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### **Claim Rejections - 35 USC § 102**

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-17 rejected under 35 U.S.C. 102(b) as being anticipated by Mukai et al (5010287).

Regarding Claims 1, 2, 8, 15 and 17. Mukai discloses an induction motor control system that provides an induction motor (Figures 1 and 3 item 5) having a predetermined rated operational voltage and frequency, wherein the predetermined rated operational voltage and frequency of the motor provides a predetermined output horsepower (abstract), a converter/rectifier (Figures 1 and 3 item 1) and a DC link (Figures 1 and 3 item 3); providing a variable speed drive (Figure 1 item 20 and Figure 3 items 10 and 20) capable of outputting a voltage and frequency greater than the predetermined rated operational voltage and frequency of the motor (abstract; column 6 lines 24-68 and column 7 lines 1-68) and connecting the variable speed drive to the induction motor to provide power to the induction motor (Figures 1 and 3 item 5); and operating the variable speed drive to provide an output voltage and frequency to the induction motor greater than the predetermined rated operational voltage and frequency of the induction motor, wherein powering the induction motor at an output voltage and frequency greater than the predetermined rated operational voltage and frequency results in the motor generating an output horsepower greater than the predetermined output horsepower (abstract; column 6 lines 24-68, column 7 lines 1-68 and column 9 lines 5-32).

Regarding Claims 3, 4, 7, and 9-12. Mukai discloses Mukai discloses a step of boosting or lowering the output voltage of the variable speed drive of an input voltage to the variable speed drive, where Mukai can step the voltage up to what suits the induction motor or lower or equal to the input voltage (abstract; column 6 lines 24-68, column 7 lines 1-68 and column 9 lines 5-32).

Regarding Claims 5, 6, 13 and 14. Mukai provides a dual voltage motor having a high voltage connection and a low voltage connection (Figures 1 and 3; abstract; column 6 lines 24-68, column 7 lines 1-68 and column 9 lines 5-32).

Regarding Claim 16. Mukai's converter (Figures 1 and 3 item 1) can be configured to provide a voltage to the DC link (Figures 1 and 3 item 3) greater than an input voltage to the variable speed drive. Mukai discloses Mukai discloses a step of boosting or lowering the output voltage of the variable speed drive of an input voltage to the variable speed drive, where Mukai can step the voltage up to what suits the induction motor or lower or equal to the input voltage (abstract; column 6 lines 24-68, column 7 lines 1-68 and column 9 lines 5-32).

### **Claim Rejections - 35 USC § 103**

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 18-23 rejected under 35 U.S.C. 103(a) as being unpatentable over Mukai et al (5010287) in view of Norbeck (4259845).

Regarding Claim 18. Mukai discloses an induction motor control system that provides an induction motor (Figures 1 and 3 item 5) having a predetermined rated operational voltage and

Art Unit: 2837

frequency, wherein the predetermined rated operational voltage and frequency of the motor provides a predetermined output horsepower (abstract), a converter/rectifier (Figures 1 and 3 item 1) and a DC link (Figures 1 and 3 item 3); providing a variable speed drive (Figure 1 item 20 and Figure 3 items 10 and 20) capable of outputting a voltage and frequency greater than the predetermined rated operational voltage and frequency of the motor (abstract; column 6 lines 24-68 and column 7 lines 1-68) and connecting the variable speed drive to the induction motor to provide power to the induction motor (Figures 1 and 3 item 5); and operating the variable speed drive to provide an output voltage and frequency to the induction motor greater than the predetermined rated operational voltage and frequency of the induction motor, wherein powering the induction motor at an output voltage and frequency greater than the predetermined rated operational voltage and frequency results in the motor generating an output horsepower greater than the predetermined output horsepower (abstract; column 6 lines 24-68, column 7 lines 1-68 and column 9 lines 5-32). However, Mukai does not disclose a compressor, a condenser and an evaporator connected in a closed refrigerant circuit.

Norbeck discloses a logic control system for an inverter driven motor, which includes a compressor, a condenser and an evaporator connected in a closed refrigerant circuit (column 2 lines 1-10).

It would have been obvious to one of ordinary skill in the art at the time of invention to use Mukai's an induction motor control system with Norbeck's a logic control system for an inverter driven motor. The advantage of combining the two would provide an inverter connected to drive an electric motor, which in turn drives a load. Further, the inverter provides AC energy over an output line to the motor upon receipt of DC energy over a DC bus.

Regarding Claims 19-23. Mukai discloses Mukai discloses a step of boosting or lowering the output voltage of the variable speed drive of an input voltage to the variable speed drive,

Art Unit: 2837

where Mukai can step the voltage up to what suits the induction motor or lower or equal to the input voltage (abstract; column 6 lines 24-68, column 7 lines 1-68 and column 9 lines 5-32).

Further, motor is insulated.

It would have been obvious to one of ordinary skill in the art at the time of invention to use Mukai's an induction motor control system with Norbeck's a logic control system for an inverter driven motor. The advantage of combining the two would provide an inverter connected to drive an electric motor, which in turn drives a load. Further, the inverter provides AC energy over an output line to the motor upon receipt of DC energy over a DC bus.

### **Conclusion**

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Pertinent arts of record related to inverter type system used in control of AC loads are disclosed in the PTO-892.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tyrone W. Smith whose telephone number is 571-272-2075. The examiner can normally be reached on weekdays from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin, can be reached on 571-272-2800 ext. 37. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

Art Unit: 2837

system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private

PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tyrone Smith  
Patent Examiner

Art Unit 2837



MARLON T. FLETCHER  
PRIMARY EXAMINER